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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/093,870	06/09/98	GUAN	S 65304-003

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EXAMINER

BEX, P

ART UNIT

PAPER NUMBER

1743

12

DATE MAILED: 12/20/99

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
**09/093,870**

Applicant(s)  
**Guan et al.**

Examiner  
**Patricia Kathryn Bex**

Group Art Unit  
**1743**



☒ Responsive to communication(s) filed on Oct 2, 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claim

☒ Claim(s) 1-48, 61, and 62 is/are pending in the applicat

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration

☒ Claim(s) 17-31 is/are allowed.

☒ Claim(s) 1-16, 32-48, 61, and 62 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 4,6,7,8

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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## **DETAILED ACTION**

### ***Response to Amendment/Restriction***

1. In response to the amendment filed on October 12, 1999, the election of species requirement is withdrawn. All of the as filed claims of Group I, claims 1-48 and 61-62 have been considered in the following office action.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-16, 32-48 and 61-62 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 and 32 it is vague and indefinite as to what applicant means when applicant discloses a plurality of vessels "one of the entrance control volume and the exit control volume" on line 11-12.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1-3,8-9, 11-14, 32-34,41-42, and 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Milberger (USP 4,099,923) in view of Mathews et al.(USP 5,753,185).

Milberger teaches an apparatus comprising a plurality of vessels 96, each having an inlet and outlet, a detector for analyzing vessel effluent 126, an entrance control volume in fluid communication with the inlet of each of the vessels, an exit control volume in fluid communication with the outlet of each of the vessels (columns 3-7, Figure 1). Milberger does not teach the plurality of flow restrictors between each of the vessels. However, Mathews does teach the use of a plurality of restrictors 20 and 40 between a vessel 26 (columns 3 and 4, Figure 1). It would have been obvious at the time of the invention to have included in the apparatus of Milberger a plurality of restrictors in order to control the flow rate and pressure of the fluid entering and leaving the vessels (column 1 lines 66-67 and column 2 lines 1).

7. Claims 10 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Milberger (USP 4,099,923) in view of Mathews et al.(USP 5,753,185), as applied to claim 9 and

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42 respectively, in further view of Basics of Thermal Mass Flow control (Unit Instruments, 10/17/90).

Milberger and Mathews as disclosed above, does not teach flow regulators which comprise a flow sensor which determines the flow rate by detecting a temperature difference between sensor element located upstream of the flow controller and the flow controller adjusts fluid flow rate in response to a signal from the flow sensor by changing fluid temperature in the flow path. However, Unit Instruments does teach flow regulators which comprise a flow sensor which determines the flow rate by detecting a temperature difference between sensor element located upstream of the flow controller and the flow controller adjusts fluid flow rate in response to a signal from the flow sensor by changing fluid temperature in the flow path (page 2 paragraphs 1-6). It would been obvious at the time of the invention to have included in the fluid handling systems of Milberger and Mathews the flow regulators as taught by Unit Instruments in order to deliver an extremely accurate, responsive, linear, and dependable control of gas flow (page 3 paragraph 7 lines 1-5).

***Allowable Subject Matter***

8. Claims 4-7, 15-31, 35-40, 47-48 and 61-62 are allowed.
9. Claims 4-7, 15-16, 35-40, 47-48 and 61-62 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
10. The following is a statement of reasons for the indication of allowable subject matter:

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The prior art does not teach or suggest a fluid handling system comprising a plurality of vessels, a detector, an entrance and exit control, flow restrictors further comprising a hollow sampling probe selectively positioned in the exit control volume to sample fluid flowing from a single flow restrictor and adapted to transport sample fluid to the detector. Furthermore, the prior art does not teach or suggest a fluid handling system comprising a plurality of outlet conduits, a selection valve, a sample bypass, a sampling valve, or a return line.

***Conclusion***

11. Claims 17-31 are allowed
12. Claims 1-16, 32-48 and 61-62 are rejected.
13. References: Nakagawa et al., Girard et al., Colvin, and Cortes et al. are cited as art of interest for the teachings of an apparatus for fluid handling comprising vessels and detectors.
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia Kathryn Bex whose telephone number is (703) 306-5697.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0651.



Patricia Kathryn Bex  
Patent Examiner  
Group Art Unit 1743  
December 14, 1999



LONG V. LE  
PRIMARY EXAMINER  
Art. 1743